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TWO NEW ASTERACEAE FROM MEXICO COLLECTED BY GEORGES WORONOW.

BY S. F. BLAKE.

The identification of about 300 specimens of Asteraceae collected in Mexico and northern South America by Mr. Georges Woronow of the Botanic Garden of Leningrad and his assistants has brought to light two new species of the tribe Verbesininae which are described here. About a third of the specimens collected are represented by duplicates in the United States National Herbarium.

Haplocalymma woronowii Blake, sp. nov.

Very slender annual, simple below the inflorescence, thinly pilose; leaves remote, opposite in about 6–10 pairs, alternate in the inflorescence, the larger lanceolate, about 1.5 cm. long, acuminate, obtuse at base, serrate, 3-nerved, short-petioled, hirsute-pilose with subappressed antrorse hairs on both sides, densely so beneath; heads tiny, 11 mm. wide when expanded, several or rather numerous in a narrow and very open panicle, the filiform pedicels 1–4 cm. long; involucre 1-seriate, 2 mm. high, the phyllaries 5, lanceolate, acuminate, erectish-pilose; achenes glabrous, epappose, 1.1 mm. long.

Erect, 25–40 cm. high, the hairs toward base of plant mostly spreading, the others mostly appressed or erectish, with obscurely enlarged bases; petioles 1–2 mm. long, hirsute-pilose; blades of principal leaves 7–18 mm. long, 2–7 mm. wide, thin, serrate above the entire base with 3–4 pairs of low sharp teeth, above dull green and antrorse-pilose, the hairs with small tuberculate bases, beneath griseously antrorse-pilose or substrigose, the hairs along the veins longer and stiffer; uppermost leaves alternate, narrowly lanceolate, 1.5 cm. long or less; panicle 3–14-headed, the divergent to erectish alternate branches bearing 1 to 4 scattered heads; pedicels naked, erect-pilose or substrigose; disk campanulate, in flower 3 mm. high, 2.5–3 mm. thick, in fruit 4 mm. high and thick; phyllaries about 0.7 mm. wide, subherbaceous, with 3 green nerves; rays 5, yellow, neutral, the ovary rudiment 1 mm. long, pilose above, the tube pilose, 0.4 mm.

long, the limb oblong-oval, emarginate, pilose on nerves of back, 4-nerved, 5.3 mm. long, 2.7 mm. wide; disk flowers about 22, their corollas yellow, short-pubescent especially on base of tube and teeth, funnel-form, 2.3 mm. long (tube 0.3 mm., throat 1.5 mm., teeth ovate, 0.5 mm. long); receptacle in fruit acutely conic, 1 mm. high; pales acute to abruptly short-pointed, short-pilose dorsally, shortly hispid-ciliate above, whitish with greenish midline, 2.5 mm. long; achenes obovoid, compressed, bluntly subquadrangular, more or less mottled with black and white; style branches with deltoid hirsutulous penicillate-apiculate appendages.

Mexico: In pine woods, Torreo el Alto near Uruapan, Michoacan, alt. 1600 m., 21 Jan. 1926, *G. Woronow* 2821 (type no. 1,409,517, U. S. Nat. Herb.; dupl. Herb. Leningrad).

The only species of the genus hitherto known, *Haplocalymma microcephalum* (Greenm.) Blake, of Morelos, is strigillose throughout, with mostly alternate ovate coarsely sinuate-dentate leaves, somewhat larger heads borne in small close cymes at the tips of the peduncles, and a pappus like that of *Hymenostephium*. In general appearance the new plant is closer to species of the section *Diplostichis* of *Viguiera*, such as *V. tenuis* A. Gray and *V. gracillima* Brandegee, but it is distinguished from these by details of leaves and heads and by its lack of pappus, as well as its principal generic character, the presence of an involucre composed of only 5 phyllaries in a single series.

Verbesina pterocarpha Blake, sp. nov.

Apparently suffrutescent, 0.5 m. high and more; stem strigillose, glabrescent; leaves alternate or opposite, oblong or obovate-oblong, medium or large, short-acuminate, acuminate at base, petioled, serrate, feather-veined, scabrous and in age lepidote-tuberculate above, beneath slightly paler, densely hirsutulous on veins and veinlets, more sparsely so on surface; heads tiny, numerous in small concave panicles; involucre 2 mm. high, 2-seriate, subequal, the phyllaries ovate, acutish, pilosulous dorsally; rays tiny; pales with conspicuous oblique dorsal wing and recurved-cuspidate tips; achenes tiny, narrowly 2-winged, shortly 2-awned.

Stems (or branches) simple below the inflorescence, striate, 2–4 mm. thick, herbaceous or somewhat woody, solid; internodes mostly 2–4 cm. long; naked part of petiole flattened above, strigillose or subappressed-hispidulous, 5–10 mm. long; blades 12–21.5 cm. long, 3.5–6.7 cm. wide, short-pointed and with very slender often falcate callous-tipped apex about 3 mm. long, acuminately long-cuneate at base and decurrent on upper part of petiole, serrate or serrulate except for about 3–4 cm. at base with about 27–42 pairs of slender callous-pointed teeth (about 0.5 mm. high, 2–4 mm. apart), thin, above deep green, evenly and densely hispidulous with antrorse hairs with persistent tuberculate bases, beneath densely spreading- or antrorse-hispidulous on costa and lateral veins with several-celled hairs with slightly swollen bases, more sparsely so on surface with mostly antrorse-curved hairs, the costa prominent beneath, whitish, 1-sulcate, the chief lateral veins about 8–10 pairs, prominulous, the secondaries

evident and loosely reticulate; peduncles terminal and from the upper axils, 2–6 cm. long, mostly 3–10-flowered, together forming a compound terminal panicle about 4–16 cm. wide, strigillose or subappressed-hispidulous, the bracts minute, subulate, the pedicels divergent, 2–25 mm. long, the terminal ones much shorter than the lateral; heads about 30–35-flowered; disk about 6 mm. high and 8 mm. wide in flower, in fruit (corollas fallen) subglobose, 5–6 mm. thick; phyllaries few, appressed, subherbaceous, greenish, with callous tips; rays apparently few, pistillate, pale yellow, pilose on tube and outer base of limb, the tube 1 mm. long, the lamina suborbicular, 3-denticulate, 2 mm. long and wide; disk flowers pale yellowish, pilose on tube and lower part of throat, 3 mm. long (tube 0.5–0.8 mm., throat narrowly campanulate, 1.5–1.8 mm., teeth ovate, 0.7–0.9 mm.); pales boat-shaped, 2.4 mm. long, 1 mm. wide, indurated and whitish below, greenish above, hispidulous-ciliolate around apex, with recurved-spreading yellowish green short-cuspidate tip, the upper half of back bearing an oblique greenish wing 0.3–0.5 mm. wide, this ciliolate above; disk achenes cuneate-obovate, 2–2.8 mm. long, 1.5–2 mm. wide (including wings), the body black, appressed-pubescent above, the wings narrow, hispidulous-ciliolate, 0.5 mm. wide or less, the awns 2, unequal or subequal, hispidulous outside, stout, 0.4–0.8 mm. long.

Mexico: Near Uruapan, Michoacan, 21 Jan. 1926, *G. Woronow* 7707 (type no. 1,409,547, U. S. Nat. Herb.; duplicate, Herb. Leningrad); along Río Zumpinito near Uruapan, alt. 1500–1600 m., 21 Jan. 1926, *Woronow* 2680 (Herb. Leningrad; photograph and fragments, U. S. Nat. Herb.).

A member of the section *Saubinetia*, related to *V. angustifolia* (Benth.) Blake, which has a different stem pubescence and larger heads (9.5 mm. wide in fruit); to *V. cymbipalea* Blake, which has a different stem pubescence and heads twice the size of those of *V. pterocarpha;* and, more closely, to *V. seemannii* Schultz Bip., which has relatively narrower and less pubescent leaves, longer rays (6–8 mm. long), narrower achenes with longer awns (1–1.5 mm. long) and obsolescent wings, and pales which nearly or quite lack the conspicuous oblique wing of *V. pterocarpha.*

The two collections on which this species is based differ considerably in foliage characters, although agreeing closely in characters of the inflorescence and heads. In the type collection the leaves are alternate (except for one or two pairs on the branches), larger and griseous-pubescent beneath at least when young, and are rather strikingly similar to those of *V. sororia* A. Gray. In the other collection the leaves are strictly opposite, decidedly smaller (representing the minima in the measurements given above) and somewhat less pubescent beneath. Both collections, however, evidently belong to a single species.